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EXAMINER	
TATE, CHRISTOPHER ROBIN	
ART UNIT	**PAPER NUMBER**
1655	

DATE MAILED: 08/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/706,100	FEIN, SEYMOUR H.	
	Examiner	Art Unit	
	Christopher R. Tate	1655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-7,9 and 14-26* is/are pending in the application.

4a) Of the above claim(s) *15-26* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-7,9 and 14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *0604 & 1004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Applicant's election without traverse of Group I, claims 1, 3-7, 9, and 14, in the reply filed on 22 May 2006 is acknowledged. Claims 1, 3-7, 9, and 14 are presented for examination on the merits.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 14 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a composition useful for treating the various instantly claimed clinical diseases/conditions, does not reasonably provide enablement for preventing such diseases/conditions. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

Applicants have reasonably demonstrated/disclosed that the claimed pharmaceutical composition is useful as a therapeutic agent for treating the various instantly claimed diseases/conditions (such as hemophilia). However, the claims also encompass using the claimed composition to prevent such diseases/conditions which is clearly beyond the scope of the instantly disclosed/claimed invention. Please note that the term "prevent" is an absolute definition which means to stop from occurring and, thus, requires a higher standard for enablement than does "therapeutic", especially since it is notoriously well accepted in the medical art that the vast majority of afflictions/disorders suffered by mankind cannot be totally

prevented with current therapies (other than certain vaccination regimes) - including preventing such disorders as hemophilia as well as the other recited diseases/conditions (which clearly are not recognized in the medical art as being a totally preventable diseases/conditions).

Accordingly, it would take undue experimentation without a reasonable expectation of success for one of skill in the art to make and/or use the instantly claimed invention in a manner which would actually result in the prevention of the instantly claimed diseases/conditions (including hemophilia), as recited in instant claim 14.

It is strongly suggested that the term "preventing" be removed from the claim language to overcome this rejection.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3-7, 9, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 3, 4, and 14 are rendered exceedingly vague and indefinite by the phrase "pharmaceutical composition comprising ... desmopressin" because it is totally unclear as to what the recited ng-*u*g ranges therein relate to. For example, are the recited ng-*u*g ranges attempting to define the amount found within a singular dosage form (such as apparently shown on page 6, lines 16-21, of the instant specification), the amount of desmopressin per unit within a dosage form (e.g., ng/ml, *u*g/ml, *u*g/mg, etc), the overall (e.g., daily) amount within two or more dosages (such as shown on page 6, lines 23-25, of the instant specification), the amount needed

within a dosage form so as provide the recited desmopressin amount range per body weight (e.g., ng/kg body weight - such as shown in instant Figures 1-8, and described on page 5, of the instant specification), or something else?

All other claims depend directly or indirectly from rejected claims and are, therefore, also rejected under USC 112, second paragraph for the reasons set forth above.

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Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-7, 9, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Yiv (US 5,707,648).

Although very difficult to interpret due to the USC 112, second paragraph rejection above, a pharmaceutical composition comprising 0.5 ng to 20 *u*g (and narrower ranges) of desmopressin is claimed, as well as an article of manufacture comprising such a composition.

Yiv teaches pharmaceutical compositions comprising desmopressin within the instantly claimed amount ranges, as best understood - including within gelatin filled capsules for peroral administration (please note that such capsules read upon an "orodispersible solid", an "open

matrix network", and "an article of manufacture" in which the desmopressin pharmaceutical composition is packaged therein - as instantly claimed), within a drug delivery formulation as shown in Example 6c (which also reads upon an "orodispersible solid" and an "open matrix network" - as instantly claimed), as well as within a liquid formulation for subcutaneous injectable administration. For example, Yu discloses capsules containing 13 *u*g and capsules containing 43 *u*g desmopressin, a drug delivery formulation containing 18 *u*g/g desmopressin - as shown in Example 6c, and subcutaneous injectable formulations containing 0.4 *u*g/ml desmopressin (so as to provide 4 *u*g/kg body weight thereof) - see, e.g., col 15, line 62 - col 18, line 26.

Therefore, the reference is deemed to anticipate the instantly claimed invention, as best understood.

Claims 1, 3, 5, 7, 9, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Alonso et al. (US 6,693,082).

Alonso et al. teach pharmaceutical compositions comprising desmopressin within the instantly claimed amount ranges, as best understood. For example, Alonso et al. teach an intravenous pharmaceutical composition comprising a dose of lower than 20 *u*g (but higher than the instantly claimed lower ng amount) and pharmaceutical compositions comprising 1-2 *u*g/kg of body weight doses of desmopressin (dissolved in 50-100 ml saline for injectable infusion) - see, e.g., col 9, line 54 - col 10, line 45, and claims. Alonso et al. also disclose conventional prior art desmopressin pharmaceutical compositions comprising 4 *u*g/ml desmopressin packaged within ampoules (see, e.g., col 8, lines 35-49).

Therefore, the reference is deemed to anticipate the instant claims above, as best understood.

Claims 1, 3, 5, 7, 9, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Shapiro (US 6,746,678).

Shapiro discloses a commercial pharmaceutical composition (packaged within a nasal spray applicator) comprising desmopressin at a daily dosage concentration of 10 *u*g.- see, e.g., col 53, lines 9-11 (please note that such a form would inherently be in the form of a solution and, therefore, would read upon one or more of the delivery forms instantly claimed including adapted for intravenous and transmucosal delivery).

Therefore, the reference is deemed to anticipate the instant claims above, as best understood.

Claims 1, 5-7, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Stanley et al. (US 4,863,737).

Stanley et al. teach a pharmaceutical composition (in the form of a lollipop, which reads upon an "orodispersible solid" as well as being adapted for "transmucosal' delivery - as instantly claimed) comprising 20 *u*g of desmopressin therein (see, e.g., col 24, lines 40-61 - Example 20).

Therefore, the reference is deemed to anticipate the instant claims above, as best understood.

Claims 1, 3-5, 7, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Trinh-Trang-Tan et al. (J. Am. Soc. Nephrol., 2000 - BIOSIS Meeting Abstract), by Wolfson et al. (Am. J. Gastroenterol., 1979), by Jahr et al. (Anesthesia & Analgesia, 1992), by Dixon et al. (Br. J. Radiol., 1981), by Malan et al. (Toxicol. Methods, 1994), or by Tormey et al. (Eur. J. Internal Med., 1992).

Each of the cited references teach pharmaceutical composition (in liquid form - thus, reads upon one or more of the delivery forms instantly claimed including adapted for intravenous and transmucosal delivery) comprising desmopressin within the instantly claimed amount ranges, as best understood (see entire documents).

Therefore, each of the cited references is deemed to anticipate the instant claims above, as best understood.

With respect to each of the USC 102 rejections above - please note that the administration of the cited prior art desmopressin pharmaceutical compositions would inherently provide the instantly claimed intended functional effect (i.e., "establishes a steady plasma/serum desmopressin concentration" in the instantly claimed picogram ranges).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1, 3-7, 9, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yiv (US 5,707,648) and Stanley et al. (US 4,863,737).

Yiv teaches pharmaceutical compositions comprising desmopressin within the instantly claimed amount ranges, as best understood - including within gelatin filled capsules for peroral administration (please note that such capsules read upon an "orodispersible solid", an "open matrix network", and "an article of manufacture" in which the desmopressin pharmaceutical composition is packaged therein - as instantly claimed), within a drug delivery formulation as shown in Example 6c (which also reads upon an "orodispersible solid" and an "open matrix network" - as instantly claimed), as well as within a liquid formulation for subcutaneous injectable administration. For example, Yu discloses capsules containing 13 *u*g and capsules containing 43 *u*g desmopressin, a drug delivery formulation containing 18 *u*g/g desmopressin - as shown in Example 6c, and subcutaneous injectable formulations containing 0.4 *u*g/ml desmopressin (so as to provide 4 *u*g/kg body weight thereof) - see, e.g., col 15, line 62 - col 18, line 26. Yiv further beneficially teach the use of soft or hard gelatin capsules as well as starch capsules for effective (preferably oral) administration of such protein-containing formulations, and that preparing such hard and soft gelatin capsules is routine and well known in the art (based upon the incorporation therein of prior art pharmacy text teachings). Yiv also teaches that a particularly preferable and useful protein to incorporate within such capsules is desmopressin. (see entire document including Abstract; col 3, line 46 - col 4, line 15; col 6, line 67 - col 7, line 20; col 8, lines 9-32; col 10, lines 25-36; col 14, lines 38-65).

Stanley et al. teach a pharmaceutical composition (in the form of a lollipop, which reads upon an "orodispersible solid" as well as being adapted for "transmucosal' delivery - as instantly

claimed) comprising 20 *u*g of desmopressin therein (see, e.g., col 24, lines 40-61 - Example 20) as an effective oral delivery form. In addition, Stanley et al. beneficially teach employing a desmopressin dosage range of 10 to 50 *u*g within such solid confectionary/candy matrix orally-administered products (see, e.g., col 17, lines 21-23).

It would have been obvious to one of ordinary skill in the art to incorporate the instantly claimed amount ranges (as best understood) of desmopressin within an oral formulation including within a hard or soft gelatin or starch capsule, and/or within a solid confectionary/candy (such as a lollipop) - so as to provide effective oral delivery pharmaceutical forms thereof, based upon the overall beneficial teachings provided by the cited references, as discussed above. The result-effective adjustment of particular conventional working conditions (e.g., employing a conventional routinely-employed rapid-dissolving gelatin or starch capsule in the pharmaceutical capsule preparations disclosed by Yiv, and/or encasing a candy including a lollipop such as disclosed by Stanley et al. within a candy wrapper and an outer box/container to protect the integrity of the candy/lollipop product as well as to provide it in a form acceptable for commercial vending sale - which would read upon "an article of manufacture" in which the desmopressin pharmaceutical composition is packaged therein) is deemed merely a matter of judicious selection and routine optimization which is well within the purview of the skilled artisan. Please note that the administration of such prior art desmopressin pharmaceutical compositions would intrinsically provide the instantly claimed intended functional effect (i.e., "establishes a steady plasma/serum desmopressin concentration" in the instantly claimed picogram ranges).

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Conclusion

No claim is allowed.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Tate whose telephone number is (571) 272-0970. The examiner can normally be reached on Mon-Thur, 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terry McKelvey can be reached on (571) 272-0775. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christopher R. Tate
Primary Examiner
Art Unit 1655